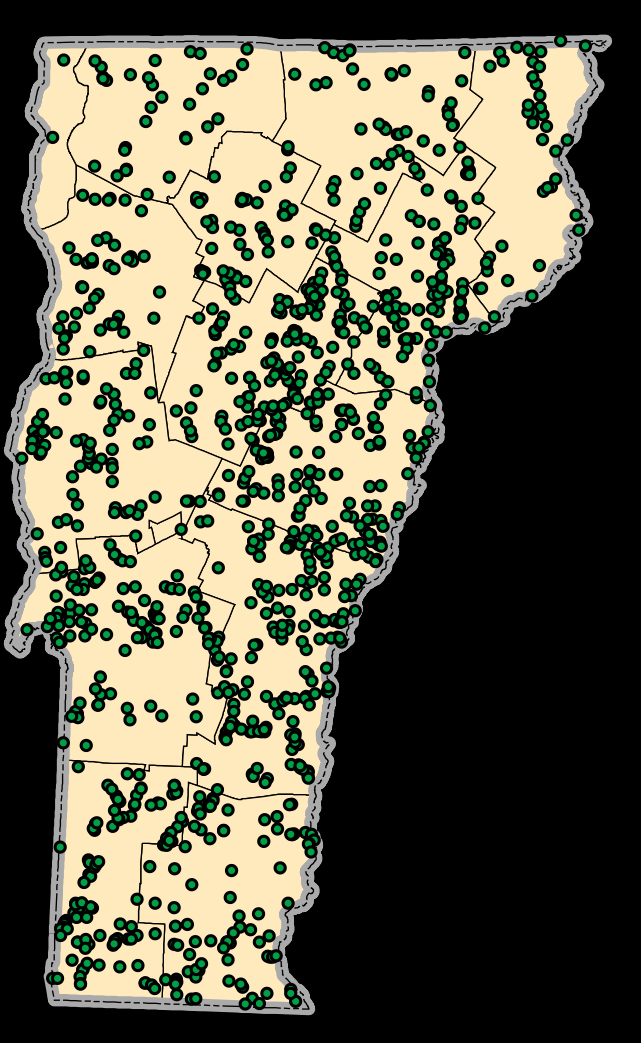


Welcome to the Dam Removal Project Managers Training

How many dams?



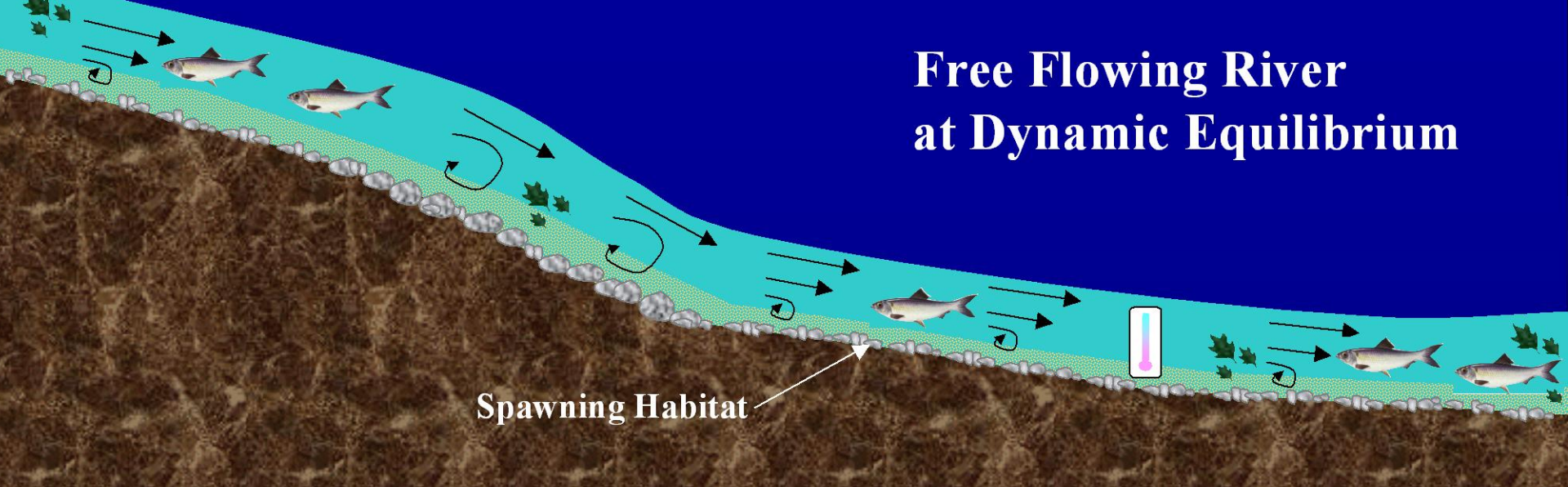
- At least 1,200 total
- 150 – hydroelectric, flood control and water supply
- 300-400 – recreation
- Hundreds unmaintained

Most of These Dams Are No Longer Economic Assets to Society

Of the 1,200 dams in Vermont only a handful offer an economic benefit for society.

The balance are “*dead beat dams*” – dams that no longer serve the function for which they were built and for which there are no new uses.

Free Flowing River at Dynamic Equilibrium



Spawning Habitat

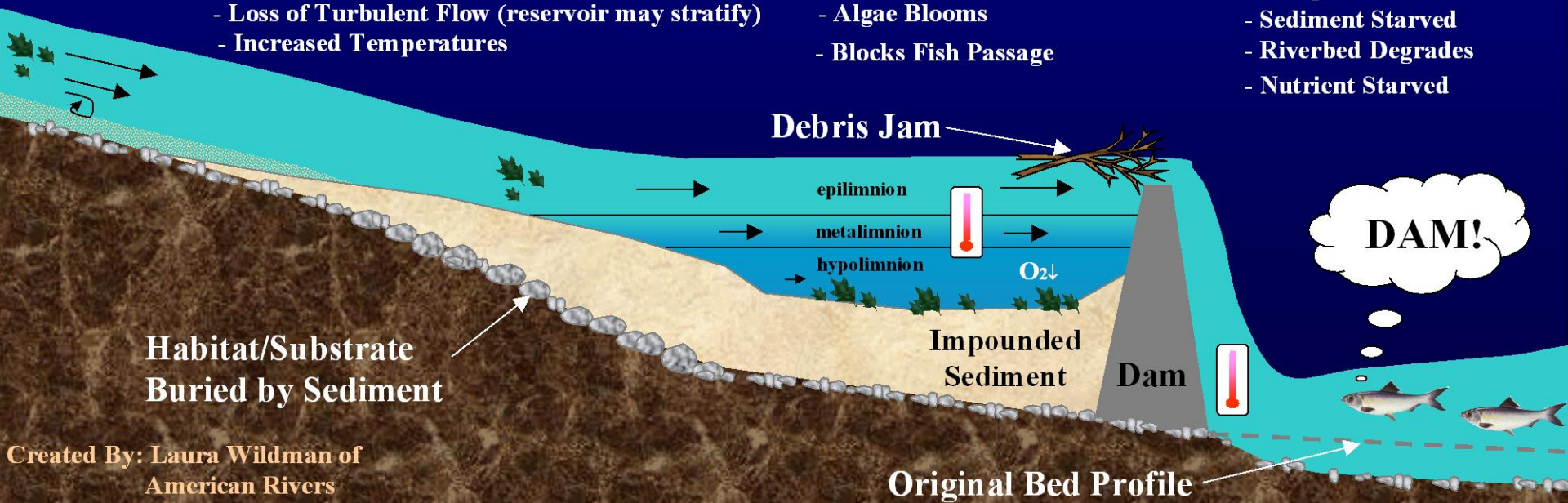
Reservoir

- Decreased Water Quality (decreased circulation)
- Pollutants Accumulate (concentrate)
- Oxygen Depletion (may become anoxic)
- Loss of Turbulent Flow (reservoir may stratify)
- Increased Temperatures

- Traps Sediment
- Traps Debris
- Blocks Nutrient Transport
- Algae Blooms
- Blocks Fish Passage

Downstream

- Water Quality is Reduced
- Altered Flow Regime
- Temperatures modified
- Sediment Starved
- Riverbed Degrades
- Nutrient Starved



Debris Jam

epilimnion

metalimnion

hypolimnion

O₂↓

Impounded
Sediment

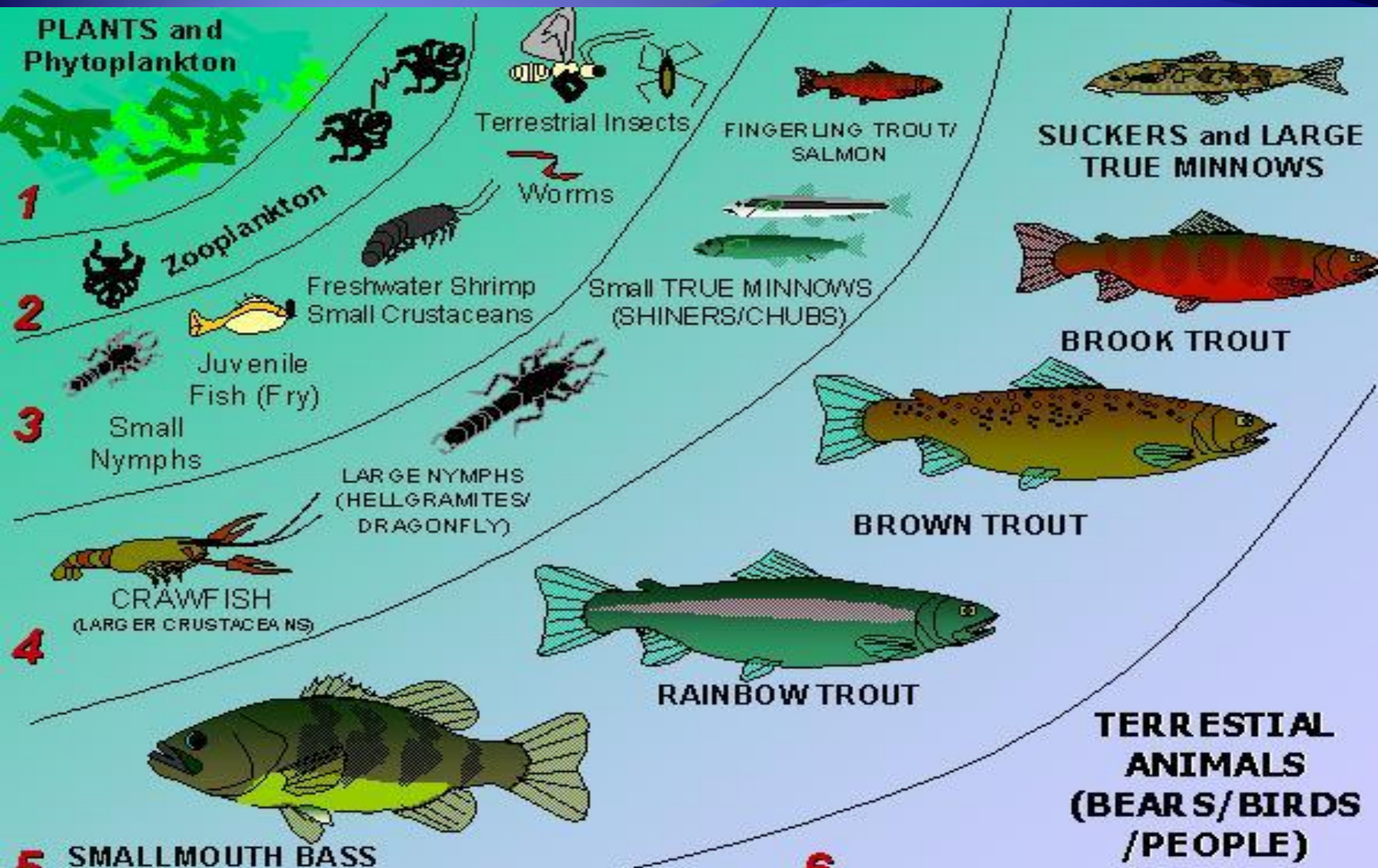
Dam

DAM!

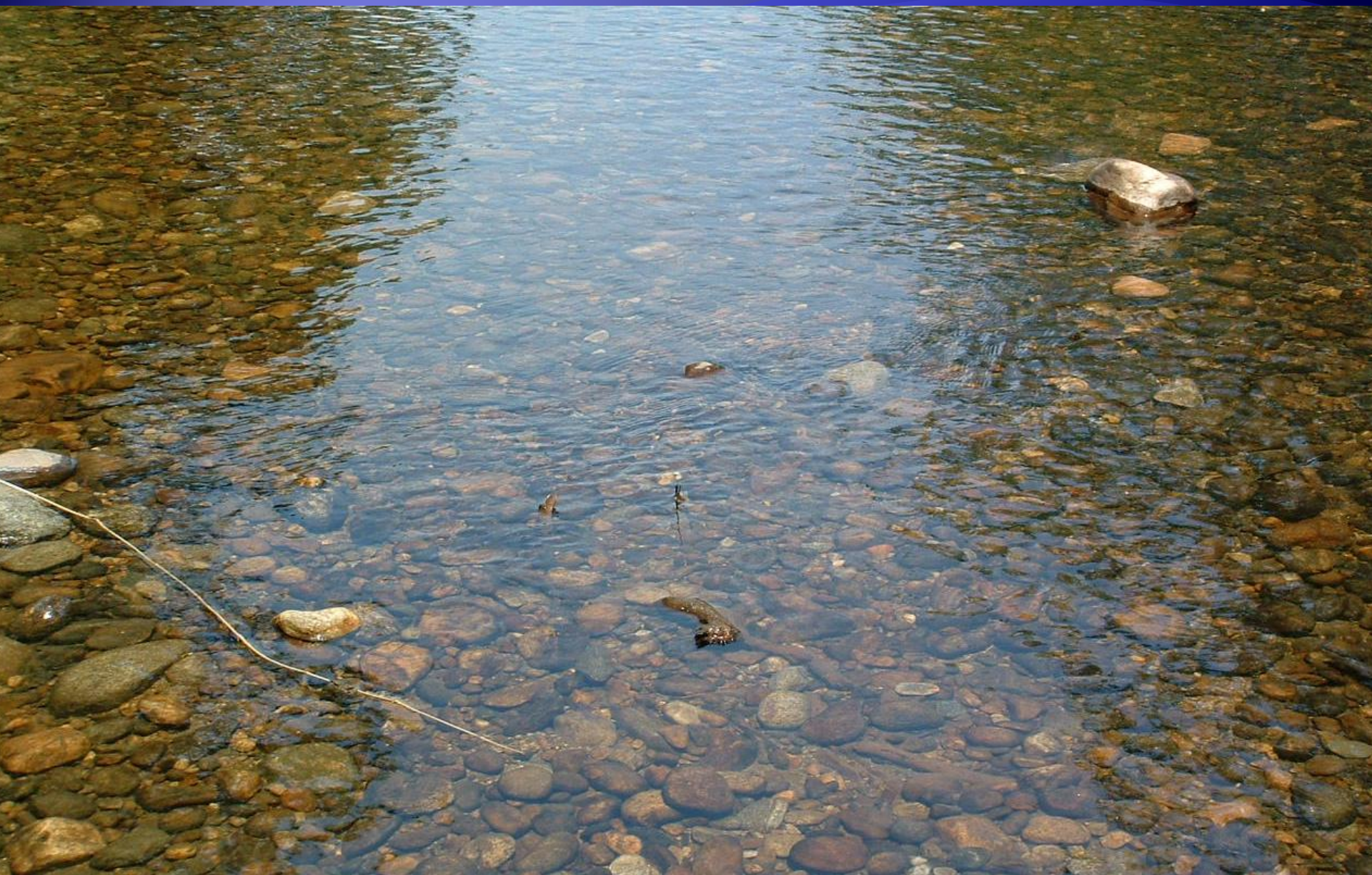
Original Bed Profile

Habitat/Substrate
Buried by Sediment

The Aquatic Food Chain: Conditions for All the Trophic Levels Improve With Dam Removal



Good Bottom



Really Bad Bottom



**HOMESTEAD MILLS DAM
AND HISTORIC THOMPSON COVERED BRIDGE
ASHUELOT RIVER, WEST SWANZEY, NH**



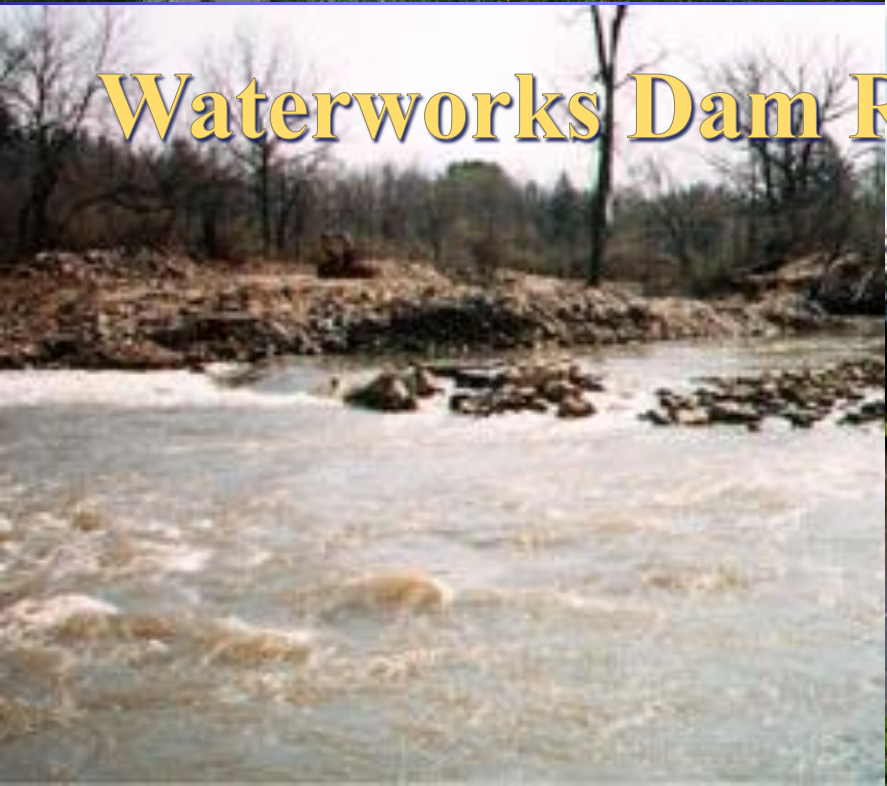
JOHNS RIVER

**Issues: Town Interests
and Documented Historic
Habitat Use**





Waterworks Dam Removal, Wisconsin, 1997



2.5 years after

No Flood Storage Potential: This dam has full impoundment and constant flow over spillway



WINCHESTER TIMBER CRIB DAM ASHUELOT RIVER



And then there is ...
....the one that got away



Phases of a Dam Removal

- Secure Dam Owner Permission
- Public Education – presentations like this one
- Dam and River Assessment
- More Public education and involvement in project
- Engineering – site planning
- Still More Public Education
- Permitting
- Construction or deconstruction

AMERICAN RIVERS-NOAA COMMUNITY-BASED RESTORATION PROGRAM NOW ACCEPTING PROPOSALS FOR RIVER RESTORATION

American Rivers seeks proposals for river restoration project grants as part of its partnership with the National Oceanic and Atmospheric Administration (NOAA) Community-based Restoration Program. This Partnership funds stream barrier removal projects that help restore riverine ecosystems, enhance public safety and community resilience, and have clear and identifiable benefits to diadromous fish populations in the Northeast (ME, NH, VT, MA, CT, RI).

Eligible applications will be evaluated based upon four priority criteria: (1) ecological merits of the project, (2) technical feasibility of the project, (3) benefits provided to the local community, and (4) financial clarity and strength of the application. Grants are provided for three distinct project phases: Construction, Engineering Design and Feasibility Analysis.

Applications are currently being accepted for 2010 project funding with a deadline of December 18, 2009.

www.americanrivers.org/NOAGrants.